SIEMENS

Data sheet

3RT2016-1AP01



Power contactor, AC-3 9 A, 4 kW / 400 V 1 NO, 230 V AC, 50 / 60 Hz 3-pole, Size S00 screw terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S00
product extension	
function module for communication	No
auxiliary switch	Yes
power loss [W] for rated value of the current at AC in hot operating state	2.1 W
per pole	0.7 W
power loss [W] for rated value of the current without load current share typical	4.2 W
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	690 V
 of auxiliary circuit with degree of pollution 3 rated value 	690 V
surge voltage resistance	
 of main circuit rated value 	6 kV
 of auxiliary circuit rated value 	6 kV
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at AC	6,7g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at AC	10,5g / 5 ms, 6,6g / 10 ms
mechanical service life (switching cycles)	
 of contactor typical 	30 000 000
 of the contactor with added electronically optimized auxiliary switch block typical 	5 000 000
 of the contactor with added auxiliary switch block typical 	10 000 000
reference code acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	01.10.2009
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
 during operation 	-25 +60 °C
during storage	-55 +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C acc. to IEC 60068-2-30	95 %

maximum	
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	
 at AC-3 rated value maximum 	690 V
 at AC-3e rated value maximum 	690 V
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated value	22 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	22 A
— up to 690 V at ambient temperature 60 °C rated value	20 A
• at AC-3	
— at 400 V rated value	9 A
— at 500 V rated value	7.7 A
— at 690 V rated value	6.7 A
● at AC-3e	
— at 400 V rated value	9 A
— at 500 V rated value	7.7 A
— at 690 V rated value	6.7 A
 at AC-4 at 400 V rated value 	8.5 A
 at AC-5a up to 690 V rated value 	19.4 A
 at AC-5b up to 400 V rated value at AC-6a 	7.4 A
 — up to 230 V for current peak value n=20 rated value 	5.3 A
— up to 400 V for current peak value n=20 rated value	5.3 A
— up to 500 V for current peak value n=20 rated value	5.3 A
 up to 690 V for current peak value n=20 rated value at AC-6a 	5 A
 at AC-ba — up to 230 V for current peak value n=30 rated value 	3.5 A
 — up to 400 V for current peak value n=30 rated value 	3.5 A
— up to 500 V for current peak value n=30 rated value	3.6 A
— up to 690 V for current peak value n=30 rated value	3.3 A
minimum cross-section in main circuit at maximum AC-1 rated value operational current for approx. 200000 operating	4 mm ²
cycles at AC-4 • at 400 V rated value	4.1 A
at 690 V rated value	3.3 A
operational current	
at 1 current path at DC-1	
- at 24 V rated value	20 A
— at 110 V rated value	2.1 A
— at 220 V rated value	2.1 A 0.8 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
	0.0 A
with 2 current paths in series at DC-1	20.4
— at 24 V rated value	20 A
— at 110 V rated value	12 A
— at 220 V rated value	1.6 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.7 A

a with 2 ourrant paths in carias at DC 1	
 with 3 current paths in series at DC-1 — at 24 V rated value 	20 A
	20 A 20 A
— at 110 V rated value	
- at 220 V rated value	20 A
— at 440 V rated value	1.3 A
— at 600 V rated value	1 A
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 110 V rated value	0.1 A
• with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 110 V rated value	0.35 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	1.5 A
— at 440 V rated value	0.2 A
— at 600 V rated value	0.2 A
operating power	
• at AC-3	
— at 230 V rated value	2.2 kW
— at 400 V rated value	4 kW
— at 500 V rated value	4 kW
— at 690 V rated value	5.5 kW
• at AC-3e	
— at 230 V rated value	2.2 kW
— at 400 V rated value	4 kW
— at 500 V rated value	4 kW
— at 690 V rated value	5 kW
operating power for approx. 200000 operating cycles	
at AC-4	
 at 400 V rated value 	2 kW
at 690 V rated value	2.5 kW
operating apparent power at AC-6a	
 up to 230 V for current peak value n=20 rated value 	2 kVA
 up to 400 V for current peak value n=20 rated value 	3.6 kVA
 up to 500 V for current peak value n=20 rated value 	4.6 kVA
 up to 690 V for current peak value n=20 rated value 	5.9 kVA
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	1.3 kVA
 up to 400 V for current peak value n=30 rated value 	2.4 kVA
• up to 500 V for current peak value n=30 rated value	3.1 kVA
• up to 690 V for current peak value n=30 rated value	4 kVA
short-time withstand current in cold operating state	
up to 40 °C	
 limited to 1 s switching at zero current maximum 	155 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	111 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	86 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	66 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	55 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC	10 000 1/h
operating frequency	
• at AC-1 maximum	1 000 1/h
• at AC-2 maximum	750 1/h
• at AC-3 maximum	750 1/h
• at AC-3e maximum	750 1/h
• at AC-4 maximum	250 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC

control stoppy Vordiage rate/ portaing array factor action supply voltage rated value of magnet coil at AC 200 V • at 60 Hz rated value 200 V • at 60 Hz 0.8 1.1 • at 60 Hz 0.75 • at 60 Hz 0.25 colid 0.1 Hz • at 60 Hz 0.25 colid 0.1 Hz • at 60 Hz		
• at 00 Hz rinkd value 20 V operating range foctor control supply voltage rated 0.811 • at 80 Hz 0.811 • at 80 Hz 0.811 apparent pick up power formaget coil at AC 27 VA • at 50 Hz 23 VA • at 50 Hz 24 VA • at 50 Hz 23 VA • at 50 Hz 24 VA • at 60 Hz 0.8 • at 60 Hz 0.25 • at 60 Hz 0.4 • at 60 Hz 0.4 <t< td=""><td>control supply voltage at AC</td><td>000.14</td></t<>	control supply voltage at AC	000.14
operating range factor control supply voltage rated vite of magnet coil at AC 0.81.1 at 50 Hz 0.81.1 apparent pick-up power of magnet coil at AC 24.3 VA at 50 Hz 0.81.1 apparent pick-up power of magnet coil at AC 24.3 VA at 50 Hz 0.8 at 60 Hz 0.25 cloaing delay 0.25 cloaing delay 0		
value of magnet coil at AC • at 80 Hz 0.811 • at 80 Hz • at		
• at 60 Hz 0.81.1 apparent pick-up power of megnet coil at AC 0.851.0 • at 50 Hz 27 VA • at 60 Hz 28.3 VA Inductive power factor with closing power of the coil 0.8 • at 60 Hz 0.8 • at 50 Hz 0.8 • at 50 Hz 0.8 • at 60 Hz 0.8 • at 60 Hz 0.8 • at 60 Hz 3.3 VA inductive power factor with the holding power of the coil 0.2 • at 80 Hz 0.25 closing delay 0.25 • at 80 Hz 0.25 closing delay 7 13 ms • at 0.0 Hz 0.0		
apparent pick-up power of magnet coil at AC 27 VA • at 50 Hz 24.3 VA Inductive power factor with closing power of the coil 0.8 • at 50 Hz 0.75 • at 50 Hz 0.8 • at 50 Hz 0.25 • at 60 Hz 0.25 • at 80 Hz 0.26 • at 80 Y rated value 10.4 • at 20 Y rated value 10.4 • at 80 Y rated value 10.4 • at 80 Y rated value 10.4	-	0.8 1.1
ext 60 Hz 27 VA ext 60 Hz 24 3 VA Inductive power factor with closing power of the coll ext 60 Hz 0.8 apparent holding power of magnet coll at AC 0.75 ext 60 Hz 0.75 apparent holding power of magnet coll at AC 4.2 VA ext 60 Hz 0.25 ext 70 Hz 10 15 ms Standard A1 - A2 AX operational current at AC-12 maximum 10 A operational current at AC-12 maximum 10 A operational current at 40 V rated value 1A operational current at 40 Hz 1A operational current at 40 Hz 1A operational current at 40 Hz 1A ot 600 Vrated	• at 60 Hz	0.85 1.1
• et 60 Hz 24.3 VA inductive power factor with closing power of the coil 0.8 • at 80 Hz 0.75 • at 80 Hz 0.75 • at 80 Hz 3.3 VA • at 80 Hz 3.3 VA inductive power factor with the holding power of the coil 0.25 • at 80 Hz 0.25 • at 80 V rate 1 • at 80 V rate value 1 • at 80 V rated value 1 • at 800 V rated value 10 A • at 800 V rated value 1 A <td>apparent pick-up power of magnet coil at AC</td> <td></td>	apparent pick-up power of magnet coil at AC	
inductive power factor with closing power of the coll 0.8 • at 50 Hz 0.8 • at 50 Hz 0.75 apparent holding power of magnet coll at AC 4.2 VA • at 60 Hz 3.3 VA • ind colve power factor with the holding power of the coll 0.8 • at 60 Hz 0.25 • at AC 9 35 ms opening delay 10 15 ms • at AC 7 13 ms arcing time 10 15 ms control version of the switch operating mechanism 10.A operational current at AC-12 maximum 10.A operational current at AC-14 10.A operational current at AC-15 1 ot 360 V rated value 10.A operational current at AC-12 1 ot 360 V rated value 2.A • at 360 V rated value 1 • at 360 V rated value 1 • at 360 V rated value 2.A • at 360 V rated value 3.A • a		27 VA
• at 50 Hz0.8• at 50 Hz0.75• at 50 Hz4.2 VA• at 50 Hz3.3 VAinductive power factor with the holding power of the coll0.25• at 60 Hz0.25• at 60 Hz0.25• at 60 Hz0.25• at AC935 ms• opening delay935 ms• at AC1015 ms• at AC1015 ms• at AC1015 ms• at AC1015 ms• at 320 V rated value10.A• at 300 V rated value10.A• at 300 V rated value10.A• at 300 V rated value10.A• at 400 V rated value10.A• at 400 V rated value10.A• at 300 V rated value10.A• at 400 V rated value10.A• at 600 V rated value10.A <trr><td< td=""><td>• at 60 Hz</td><td>24.3 VA</td></td<></trr>	• at 60 Hz	24.3 VA
• et 60 Hz 0.75 apparent holding power of magnet coil at AC 4.2 VA • at 80 Hz 3.3 VA inductive power factor with the holding power of the coil 0.25 • at 80 Hz 0.25 closing delay 0.25 • at 0.0 Hz 0.25 closing delay 0.25 • at AC 9 35 ms oponing delay 10 15 ms • at AC 7 13 ms arcing time 10 15 ms control version of the switch operating mechanism 10 15 ms Auxiliary circuit 10 Auxiliary circuit 10.A operational current at AC-12 maximum 10.A operational current at AC-14 Contexts 1 • at 600 V rated value 10.A operational current at DC-15 1 • at 600 V rated value 10.A operational current at DC-12 1.A • at 60 V rated value 10.A • at 60 V rated value 1.A operational current at DC-12 1.A • at 60 V rated value 6.A • at 60 V rated value 6.A • at 60 V rated value 10.A • at 60 V rated value 10.A • at 60 V rated value 10.A •	inductive power factor with closing power of the coil	
apparent holding power of magnet coil at AC 4.2 VA • at 50 Hz 4.2 VA • at 50 Hz 3.3 VA Inductive power factor with the holding power of the coil 0.25 • at 50 Hz 0.25 • closing delay 9 35 ms • at AC 7 13 ms arcing time 10 15 ms control version of the switch operating mechanism Standard A1 - A2 Auxiliary circuit 10 A operational current at AC-15 1 • at 300 V rated value 10 A • at 300 V rated value 10 A • at 600 V rated value 2 A • at 600 V rated value 1 A • at 800 V rated value 1 A • at 800 V rated value 1 A • at 800 V rated value 6 A • at 800 V rated value 1 A • at 800 V rated value 1 A • at 800 V rated value 1 A • at 800 V rated value 2 A • at 800 V rated value 1 A • at 800 V rated value 1 A • at 800 V rated value 3 A • at 200 V rated value 1 A • at 200 V rated value 0 A • at 200 V rated value 0 A • at 200 V rated value 0 A	• at 50 Hz	0.8
at 50 Hz 42 VA at 60 Hz 33 VA inductive power factor with the holding power of the coll 0 at 60 Hz 0.25 closing delay 0.25 et at 00 Hz 0.25 closing delay 0.15 ms et AC 713 ms arcing time 1015 ms control version of the switch operating mechanism Standard A1 - A2 Auxiliary circuit 1015 ms number of NO contacts for auxiliary contacts 1 instantaneous contact 10 A operational current at AC-12 maximum 10 A operational current at AC-12 maximum 10 A operational current at DC-12 at 6300 V rated value at 4500 V rated value 1 A operational current at DC-12 at 6300 V rated value at 450 V rated value 1 A operational current at DC-12 at 6300 V rated value at 450 V rated value 1 A operational current at DC-13 A et at 600 V rated value 1 A operational current at DC-13 1 A et at 600 V rated value 0 A et at 60 V rated value 0 A et at 60 V rated value 0 A et at 60 V rated value 0 A	• at 60 Hz	0.75
• at 60 Hz 33 VA Inductive power factor with the holding power of the coll 0.25 • at 60 Hz 0.25 closing delay 9 35 ms • at AC 9 35 ms opening delay 0 15 ms • at AC 7 13 ms arcing time 10 15 ms control version of the switch operating mechanism Standard A1 - A2 Auxiliary circuit 10 A operational current at AC-15 1 • at 200 V rated value 10 A operational current at AC-15 10 A • at 600 V rated value 2 A • at 600 V rated value 1 A operational current at DC-12 1 A • at 600 V rated value 1 A operational current at DC-12 1 A • at 600 V rated value 1 A operational current at DC-12 1 A • at 600 V rated value 1 A operational current at DC-12 1 A • at 600 V rated value 1 A operational current at DC-12 1 A • at 600 V rated value 1 A	apparent holding power of magnet coil at AC	
Inductive power factor with the holding power of the coil 0.25 • at 50 Hz 0.25 • closing delay 0.25 • at AC 9 35 ms opening delay 0 15 ms • at AC 7 13 ms arcing time 10 15 ms control version of the switch operating mechanism 10 15 ms Auxiliary circuit 10 15 ms number of NO contacts for auxiliary contacts 1 ninstantaneous contact 1 operational current at AC-12 maximum 10.A operational current at AC-15.6 1 • at 200 V rated value 1A • at 400 V rated value 1A • at 600 V rated value 1A operational current at AC-12 1 • at 600 V rated value 1A operational current at AC-15 1 • at 400 V rated value 1A operational current at DC-12 1 • at 600 V rated value 6A • at 100 V rated value 1A • at 220 V rated value 1A • at 600 V rated value 1A <td>• at 50 Hz</td> <td>4.2 VA</td>	• at 50 Hz	4.2 VA
coil 0.25 e at 60 Hz 0.25 closing delay 935 ms opening delay 713 ms at AC 713 ms arcing time 1015 ms control version of the switch operating mechanism Standard A1 - A2 Auxiliary circuit 10 A operational current at AC-12 maximum 10 A operational current at AC-15 1 • at 230 V rated value 3 A • at 400 V rated value 3 A • at 400 V rated value 3 A • at 600 V rated value 1 A operational current at DC-12 • 0 A • at 400 V rated value 2 A • at 42 V rated value 3 A • at 60 V rated value 6 A • at 60 V rated value 6 A • at 10 V rated value 6 A • at 22 V rated value 0 A • at 22 V rated value	• at 60 Hz	3.3 VA
• at 50 Hz 0.25 • at 60 Hz 0.25 closing delay 935 ms • at AC 713 ms arcing time 1015 ms control version of the switch operating mechanism Standard A1 - A2 Auxilary circuit 1015 ms number of NO contacts for auxillary contacts 1 instantaneous contact 10 A operational current at AC-12 maximum 10 A e at 60 V rated value 2 A • at 60 V rated value 1 A operational current at DC-12 • • at 60 V rated value 1 A operational current at DC-12 • • at 60 V rated value 0 A • at 60 V rated value 0 A • at 60 V rated value 0 A • at 22 V rated value 0 A • at 24 V rated value 0 A • at 2		
• at 60 Hz 0.25 closing delay 9 35 ms • at AC 9 35 ms • at AC 7 13 ms arcing time 10 15 ms control version of the switch operating mechanism Standard A1 - A2 Axxillary circuit 10.A poentional current at AC-12 maximum 10 A operational current at AC-15 1 • at 230 V rated value 3 A • at 600 V rated value 3 A • at 600 V rated value 1 A operational current at DC-12 0 A • at 230 V rated value 1 A operational current at DC-12 10 A • at 600 V rated value 2 A • at 60 V rated value 6 A • at 10 V rated value 6 A • at 125 V rated value 0 A • at 220 V rated value 0 A • at 220 V rated value 2 A • at 220 V rated value 2 A • at 220 V rated value 0 A • at 220 V rated value<		
closing delay 9 35 ms opening delay 9 35 ms arcing time 7 13 ms control version of the switch operating mechanism 10 15 ms Auxiliary circuit 1 number of NO contacts for auxiliary contacts 1 instantaneous contact 1 operational current at AC-12 maximum 10 A operational current at AC-15 1 • at 230 V rated value 10 A • at 200 V rated value 2 A • at 600 V rated value 2 A • at 48 V rated value 10 A • at 210 V rated value 10 A • at 48 V rated value 10 A • at 48 V rated value 6 A • at 10 V rated value 10 A • at 210 V rated value 10 A • at 212 V rated value 10 A • at 30 V rated value 2 A • at 30 V rated value 1 A • at 22 V rated value 1 A • at 22 V rated value 1 A • at 30 V rated value 2 A • at 30 V rated value 2 A • at 30 V rated value 1 A <t< td=""><td></td><td></td></t<>		
• eit AC 935 ms opening delay - • eit AC 713 ms arcing time 1015 ms Control version of the switch operating mechanism Standard A1 - A2 Number of NO contacts for auxiliary contacts 1 Instananeous contact - operational current at AC-12 maximum 10 A operational current at AC-15 - • at 230 V rated value 3 A • at 600 V rated value 2 A • at 600 V rated value 6 A • at 600 V rated value 6 A • at 82 V rated value 10 A • at 22 V rated value 10 A • at 22 V rated value 10 A • at 22 V rated value 10 A • at 82 V rat		0.25
opening delay 713 ms arcing time 1015 ms control version of the switch operating mechanism Standard A1 - A2 Auxiliary circuit 1 instantaneous contact 1 operational current at AC-12 maximum 10 A operational current at AC-15 10 A • at 230 V rated value 2A • at 630 V rated value 2A • at 630 V rated value 1 A operational current at DC-12 • • at 24 V rated value 10 A operational current at DC-12 • • at 48 V rated value 6 A • at 24 V rated value 6 A • at 250 V rated value 6 A • at 260 V rated value 1 A operational current at DC-12 • • at 24 V rated value 6 A • at 250 V rated value 1 A • at 260 V rated value 2 A • at 220 V rated value 1 A • at 60 V rated value 1 A • at 220 V rated value 1 A • at 220 V rated value 0 A • at 110 V rated value 0 A <tr< td=""><td></td><td>0 05</td></tr<>		0 05
• at AC 7 13 ms arcing time 10 15 ms control version of the switch operating mechanism Standard A1 - A2 Auxiliary circuit 1 number of NO contacts for auxiliary contacts 1 operational current at AC-12 maximum 10 A operational current at AC-15 1 • at 200 V rated value 10 A • at 200 V rated value 2 A • at 800 V rated value 10 A operational current at DC-12 10 A • at 80 V vated value 2 A • at 80 V rated value 6 A • at 80 V rated value 6 A • at 40 V rated value 6 A • at 410 V rated value 10 A • at 42 V rated value 10 A • at 42 V rated value 10 A • at 60 V rated value 2 A • at 22 V rated value 2 A • at 22 V rated value 2 A • at 22 V rated value 0.15 A operational current at DC-13 0 A • at 24 V rated value 2 A • at 24 V rated value 2 A • at 20 V rated value 2 A • at 20 V rated value 2 A • at 20 V rated value 0.3 A • at 60 V rated value 0 A		9 35 ms
arcing time 10 15 ms control version of the switch operating mechanism Standard A1 - A2 Auxiliary circuit 1 number of NO contacts for auxiliary contacts 1 instantaneous contact 0 operational current at AC-12 maximum 10 A operational current at AC-15 10 A • at 200 V rated value 2 A • at 600 V rated value 2 A • at 600 V rated value 10 A operational current at DC-12 10 A • at 60 V rated value 10 A • at 60 V rated value 6 A • at 110 V rated value 10 A • at 60 V rated value 10 A • at 60 V rated value 10 A • at 60 V rated value 10 A • at 22 V rated value 10 A • at 24 V rated value 10 A • at 25 V rated value 10 A • at 24 V rated value 10 A • at 25 V rated value 10 A • at 60 V rated value 10 A • at 24 V rated value 0.15 A operational current at DC-13 10 A • at 20 V rated value		7 40
Control version of the switch operating mechanism Standard A1 - A2 Auxiliary circuit Intervent A number of NO contacts for auxiliary contacts 1 instantaneous contact 1 operational current at AC-12 maximum 10 A operational current at AC-15 10 A • at 230 V rated value 2 A • at 690 V rated value 2 A • at 690 V rated value 6 A • at 24 V rated value 6 A • at 100 V rated value 6 A • at 10 V rated value 1 A operational current at DC-12 10 A • at 24 V rated value 6 A • at 24 V rated value 6 A • at 10 V rated value 1 A • at 25 V rated value 1 A • at 25 V rated value 1 A • at 600 V rated value 10 A • at 24 V rated value 10 A • at 25 V rated value 10 A • at 26 V rated value 10 A • at 27 V rated value 0 A • at 28 V rated value 0 A • at 29 V rated value<		
Auxiliary circuit number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum 10 A operational current at AC-15 • at 200 V rated value • at 500 V rated value • at 600 V rated value • at 24 V rated value • at 20 V rated value • at 24 V rated value • at 20 V rated value </td <td></td> <td></td>		
number of NO contacts for auxiliary contacts 1 instantaneous contact 10 A operational current at AC-12 maximum 10 A • at 230 V rated value 3A • at 400 V rated value 2A • at 690 V rated value 1A operational current at DC-12 10 A • at 690 V rated value 1A operational current at DC-12 10 A • at 49 V rated value 6A • at 40 V rated value 6A • at 110 V rated value 3A • at 22 V rated value 1A operational current at DC-12 2A • at 24 V rated value 6A • at 10 V rated value 3A • at 110 V rated value 2A • at 22 V rated value 1A • at 20 V rated value 1A • at 20 V rated value 1A • at 60 V rated value 10 A • at 60 V rated value 0.3 A • at 60 V rated value 0.1 A conta		Standard AT - AZ
instantaneous contact operational current at AC-12 maximum 10 A operational current at AC-15 • at 230 V rated value 10 A • at 400 V rated value 2 A • at 690 V rated value 1 A operational current at DC-12 10 A • at 44 V rated value 6 A • at 42 V rated value 6 A • at 43 V rated value 6 A • at 24 V rated value 6 A • at 25 V rated value 1 A operational current at DC-13 3 A • at 24 V rated value 0.15 A operational current at DC-13 10 A • at 24 V rated value 10 A • at 24 V rated value 10 A • at 24 V rated value 0.15 A operational current at DC-13 1 A • at 24 V rated value 10 A • at 10 V rated value 2 A • at 24 V rated value 10 A • at 10 V rated value 1 A • at 24 V rated value 10 A • at 60 V rated value 2 A • at 60 V rated value 0.3 A • at 25 V rate		4
operational current at AC-12 maximum 10 A operational current at AC-15 10 A • at 200 V rated value 3 A • at 400 V rated value 3 A • at 600 V rated value 1 A operational current at DC-12 10 A • at 24 V rated value 10 A • at 48 V rated value 10 A • at 48 V rated value 10 A • at 10 V rated value 6 A • at 10 V rated value 6 A • at 10 V rated value 2 A • at 10 V rated value 1 A • at 25 V rated value 2 A • at 20 V rated value 0.15 A operational current at DC-13 10 A • at 80 V rated value 2 A • at 60 V rated value 1 A • at 60 V rated value 0.1 A contact reliability of auxiliary contacts 1 faulty switching per 100 million (17 V, 1 mA) ULCSA ratings 9 A		1
operational current at AC-15 • at 230 V rated value • at 500 V rated value • at 500 V rated value • at 690 V rated value • at 64 V rated value • at 220 V rated value • at 600 V rated value • at 60 V rated value • at 60 V rated value • at 220 V rated value • at 60 V rated value • at 220 V rated value • at 220 V rated value • at 220 V rated value • at 600 V rated valu		- 10 A
• at 230 V rated value 10 A • at 400 V rated value 3 A • at 500 V rated value 2 A • at 690 V rated value 1 A operational current at DC-12	· ·	-
• at 500 V rated value 2 A • at 690 V rated value 1 A operational current at DC-12 10 A • at 24 V rated value 6 A • at 48 V rated value 6 A • at 60 V rated value 6 A • at 10 V rated value 3 A • at 125 V rated value 1 A • at 220 V rated value 1 A • at 200 V rated value 0.15 A operational current at DC-13 0 A • at 48 V rated value 10 A • at 40 V rated value 2 A • at 60 V rated value 0.15 A operational current at DC-13 0 A • at 40 V rated value 1 A • at 60 V rated value 2 A • at 60 V rated value 2 A • at 60 V rated value 0.9 A • at 10 V rated value 0.1 A contact reliability of auxiliary contacts 1 faulty switching per 100 million (17 V, 1 mA) UJ/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value 9 A yielded mechanical performance [tp] 9 A yielded mechanical performance [tp] 0.33 hp	-	10 A
• at 690 V rated value 1 A operational current at DC-12 10 A • at 24 V rated value 6 A • at 60 V rated value 6 A • at 60 V rated value 6 A • at 60 V rated value 6 A • at 10 V rated value 3 A • at 220 V rated value 1 A • at 200 V rated value 1 A • at 600 V rated value 1 A • at 600 V rated value 1 A • at 60 V rated value 1 A • at 60 V rated value 1 A • at 24 V rated value 10 A • at 60 V rated value 1 A • at 60 V rated value 2 A • at 10 V rated value 2 A • at 10 V rated value 2 A • at 10 V rated value 0.9 A • at 220 V rated value 0.3 A • at 220 V rated value 0.1 A contact reliability of auxiliary contacts 1 faulty switching per 100 million (17 V, 1 mA) UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 600 V rated value 9 A yielded mechanical performance [hp] • for single-phase AC mo	• at 400 V rated value	3 A
operational current at DC-12• at 24 V rated value10 A• at 48 V rated value6 A• at 60 V rated value6 A• at 110 V rated value3 A• at 125 V rated value2 A• at 220 V rated value1 A• at 600 V rated value0.15 Aoperational current at DC-1310 A• at 48 V rated value2 A• at 60 V rated value1 A• at 60 V rated value0.9 A• at 220 V rated value0.1 A• at 600 V rated value0.1 A• at 600 V rated value1 faulty switching per 100 million (17 V, 1 mA)UL/CSA ratings1 faulty switching per 100 million (17 V, 1 mA)full-load current (FLA) for 3-phase AC motor7.6 A• at 600 V rated value9 A• yielded mechanical performance [hp]9 A• for single-phase AC motor0.33 hp- at 110/120 V rated value0.33 hp- at 230 V rated value1 hp	• at 500 V rated value	2 A
• at 24 V rated value10 A• at 48 V rated value6 A• at 60 V rated value6 A• at 10 V rated value3 A• at 125 V rated value2 A• at 220 V rated value1 A• at 600 V rated value0.15 Aoperational current at DC-1310 A• at 60 V rated value2 A• at 60 V rated value0.15 Aoperational current at DC-1310 A• at 60 V rated value2 A• at 60 V rated value2 A• at 60 V rated value0.9 A• at 10 V rated value0.3 A• at 220 V rated value0.1 AContact reliability of auxiliary contacts1 faulty switching per 100 million (17 V, 1 mA)ULCSA ratings7.6 Afull-load current (FLA) for 3-phase AC motor9 A• at 600 V rated value0.33 hp• at 600 V rated value0.33 hp- at 230 V rated value0.33 hp- at 230 V rated value0.33 hp- at 230 V rated value1.4	• at 690 V rated value	1 A
• at 48 V rated value6 A• at 60 V rated value6 A• at 110 V rated value3 A• at 125 V rated value2 A• at 220 V rated value1 A• at 600 V rated value0.15 Aoperational current at DC-1310 A• at 60 V rated value2 A• at 60 V rated value10 A• at 60 V rated value2 A• at 60 V rated value2 A• at 48 V rated value2 A• at 60 V rated value2 A• at 24 V rated value2 A• at 25 V rated value0.9 A• at 25 V rated value0.3 A• at 600 V rated value0.1 A• at 600 V rated value9 A• at 600 V rated value9 A• at 600 V rated value0.3 A• at 600 V rated value0.3 A• at 600 V rated value0.1 A• at 600 V rated value0.1 A• at 600 V rated value0.1 A• at 600 V rated value9 A• at 600 V rated value0.3 A• at 600 V rated value0.33 hp• at 101/120 V rated value0.33 hp• at 230 V rated value0.33 hp• at 230 V rated value1 hp	operational current at DC-12	
• at 80 V rated value6 A• at 110 V rated value3 A• at 125 V rated value2 A• at 220 V rated value1 A• at 600 V rated value0.15 Aoperational current at DC-13	at 24 V rated value	10 A
• at 110 V rated value3 A• at 125 V rated value2 A• at 220 V rated value1 A• at 600 V rated value0.15 Aoperational current at DC-13-• at 24 V rated value10 A• at 48 V rated value2 A• at 60 V rated value2 A• at 60 V rated value1 A• at 60 V rated value2 A• at 110 V rated value0.9 A• at 220 V rated value0.3 A• at 600 V rated value0.14 Acontact reliability of auxiliary contacts1 faulty switching per 100 million (17 V, 1 mA)UL/CSA ratingsfull-load current (FLA) for 3-phase AC motor• at 480 V rated value9 A• yielded mechanical performance [hp]• for single-phase AC motor- at 110/120 V rated value0.33 hp- at 230 V rated value0.33 hp- at 230 V rated value1 hp	 at 48 V rated value 	6 A
• at 125 V rated value 2 A • at 220 V rated value 1 A • at 600 V rated value 0.15 A operational current at DC-13 10 A • at 24 V rated value 2 A • at 48 V rated value 2 A • at 60 V rated value 0.9 A • at 125 V rated value 0.3 A • at 220 V rated value 0.1 A contact reliability of auxiliary contacts 1 faulty switching per 100 million (17 V, 1 mA) UL/CSA ratings 7.6 A • at 600 V rated value 9 A yielded mechanical performance [hp] 9 A • for single-phase AC motor - at 110/120 V rated value • at 200 V rated value 0.33 hp - at 230 V rated value 0.33 hp	• at 60 V rated value	6 A
• at 220 V rated value1 A• at 600 V rated value0.15 Aoperational current at DC-13• at 24 V rated value10 A• at 48 V rated value2 A• at 60 V rated value2 A• at 60 V rated value1 A• at 110 V rated value0.9 A• at 220 V rated value0.3 A• at 600 V rated value0.1 AContact reliability of auxiliary contacts1 faulty switching per 100 million (17 V, 1 mA)UL/CSA ratingsfull-load current (FLA) for 3-phase AC motor• at 480 V rated value9 A• yielded mechanical performance [hp]• for single-phase AC motor- at 110/120 V rated value0.33 hp- at 230 V rated value0.33 hp	 at 110 V rated value 	3 A
• at 600 V rated value0.15 Aoperational current at DC-1310 A• at 24 V rated value10 A• at 48 V rated value2 A• at 60 V rated value2 A• at 110 V rated value1 A• at 125 V rated value0.9 A• at 220 V rated value0.1 A• at 600 V rated value9 A• at 480 V rated value9 A• at 600 V rated value9 A• at 600 V rated value9 A• at 200 V rated value0.33 hp- at 110/120 V rated value0.33 hp- at 230 V rated value1 hp	 at 125 V rated value 	2 A
operational current at DC-13 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 10 V rated value • at 10 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 480 V rated value • at 600 V rated value • at 200 V rated value • at 230 V rated value	 at 220 V rated value 	1 A
 at 24 V rated value at 48 V rated value at 60 V rated value at 60 V rated value at 110 V rated value at 110 V rated value at 125 V rated value 0.9 A at 220 V rated value 0.3 A at 600 V rated value 0.1 A contact reliability of auxiliary contacts 1 faulty switching per 100 million (17 V, 1 mA) UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 600 V rated value 7.6 A 9 A 9 A yielded mechanical performance [hp] for single-phase AC motor - at 110/120 V rated value 0.33 hp - at 230 V rated value 1 hp 	• at 600 V rated value	0.15 A
 at 48 V rated value at 60 V rated value at 110 V rated value at 110 V rated value at 125 V rated value at 220 V rated value at 600 V rated value 0.1 A contact reliability of auxiliary contacts 1 faulty switching per 100 million (17 V, 1 mA) UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 600 V rated value 7.6 A 9 A yielded mechanical performance [hp] for single-phase AC motor at 110/120 V rated value 0.33 hp at 230 V rated value 1 hp 	operational current at DC-13	
• at 60 V rated value2 A• at 110 V rated value1 A• at 125 V rated value0.9 A• at 220 V rated value0.3 A• at 600 V rated value0.1 Acontact reliability of auxiliary contacts1 faulty switching per 100 million (17 V, 1 mA)UL/CSA ratingsfull-load current (FLA) for 3-phase AC motor• at 600 V rated value7.6 A• at 600 V rated value9 Ayielded mechanical performance [hp]9 A• for single-phase AC motor0.33 hp- at 110/120 V rated value0.33 hp- at 230 V rated value1 hp	• at 24 V rated value	10 A
 at 110 V rated value at 125 V rated value at 125 V rated value at 220 V rated value at 600 V rated value 0.1 A contact reliability of auxiliary contacts 1 faulty switching per 100 million (17 V, 1 mA) UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 600 V rated value 7.6 A 9 A yielded mechanical performance [hp] for single-phase AC motor - at 110/120 V rated value 0.33 hp - at 230 V rated value 	 at 48 V rated value 	2 A
• at 125 V rated value0.9 A• at 220 V rated value0.3 A• at 600 V rated value0.1 Acontact reliability of auxiliary contacts1 faulty switching per 100 million (17 V, 1 mA)UL/CSA ratingsfull-load current (FLA) for 3-phase AC motor• at 480 V rated value7.6 A• at 600 V rated value9 Ayielded mechanical performance [hp]• for single-phase AC motor- at 110/120 V rated value0.33 hp- at 230 V rated value1 hp	• at 60 V rated value	2 A
• at 220 V rated value0.3 A• at 600 V rated value0.1 Acontact reliability of auxiliary contacts1 faulty switching per 100 million (17 V, 1 mA)UL/CSA ratingsfull-load current (FLA) for 3-phase AC motor• at 480 V rated value7.6 A• at 600 V rated value9 Ayielded mechanical performance [hp]9 A• for single-phase AC motor0.33 hp- at 110/120 V rated value0.33 hp- at 230 V rated value1 hp	 at 110 V rated value 	1 A
• at 600 V rated value0.1 Acontact reliability of auxiliary contacts1 faulty switching per 100 million (17 V, 1 mA)UL/CSA ratingsfull-load current (FLA) for 3-phase AC motor7.6 A• at 480 V rated value9 A• at 600 V rated value9 Ayielded mechanical performance [hp]0.33 hp- at 110/120 V rated value0.33 hp- at 230 V rated value1 hp	• at 125 V rated value	0.9 A
contact reliability of auxiliary contacts 1 faulty switching per 100 million (17 V, 1 mA) UL/CSA ratings Image: Contact reliability of auxiliary contacts full-load current (FLA) for 3-phase AC motor 7.6 A • at 480 V rated value 9 A yielded mechanical performance [hp] 9 A • for single-phase AC motor 0.33 hp — at 230 V rated value 1 hp	• at 220 V rated value	0.3 A
UL/CSA ratings full-load current (FLA) for 3-phase AC motor 7.6 A • at 480 V rated value 9 A • at 600 V rated value 9 A yielded mechanical performance [hp] 9 A • for single-phase AC motor 0.33 hp - at 110/120 V rated value 0.33 hp - at 230 V rated value 1 hp	• at 600 V rated value	0.1 A
full-load current (FLA) for 3-phase AC motor 7.6 A • at 480 V rated value 9 A • at 600 V rated value 9 A yielded mechanical performance [hp] • for single-phase AC motor - at 110/120 V rated value 0.33 hp - at 230 V rated value 1 hp	contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
• at 480 V rated value 7.6 A • at 600 V rated value 9 A yielded mechanical performance [hp] 9 A • for single-phase AC motor 0.33 hp - at 110/120 V rated value 0.33 hp - at 230 V rated value 1 hp	UL/CSA ratings	
• at 480 V rated value 7.6 A • at 600 V rated value 9 A yielded mechanical performance [hp] 9 A • for single-phase AC motor 0.33 hp - at 110/120 V rated value 0.33 hp - at 230 V rated value 1 hp	full-load current (FLA) for 3-phase AC motor	
yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value 0.33 hp — at 230 V rated value 1 hp		7.6 A
for single-phase AC motor at 110/120 V rated value at 230 V rated value 1 hp	• at 600 V rated value	9 A
— at 110/120 V rated value0.33 hp— at 230 V rated value1 hp	yielded mechanical performance [hp]	
— at 110/120 V rated value0.33 hp— at 230 V rated value1 hp		
- at 230 V rated value 1 hp		0.33 hp
	— at 230 V rated value	
	 for 3-phase AC motor 	

	0 hz
— at 200/208 V rated value	2 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	5 hp
— at 575/600 V rated value	7.5 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
design of the fuse link	
for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)
 — with type of assignment 2 required 	gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA)
 for short-circuit protection of the auxiliary switch 	gG: 10 A (500 V, 1 kA)
required	
Installation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail
	according to DIN EN 60715
 side-by-side mounting 	Yes
height	58 mm
width	45 mm
depth	73 mm
required spacing	
 with side-by-side mounting 	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
 for grounded parts 	
— forwards	10 mm
— upwards	10 mm
— at the side	6 mm
— downwards	10 mm
 for live parts 	
– forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	6 mm
Connections/ Terminals	
type of electrical connection	
for main current circuit	screw-type terminals
 for auxiliary and control circuit 	screw-type terminals
at contactor for auxiliary contacts	Screw-type terminals
 of magnet coil 	Screw-type terminals
type of connectable conductor cross-sections	
for main contacts	
— solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²
— solid — solid or stranded	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm² 2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²), 2x 4 mm²
	2x (0,5 1,5 mm ²), 2x (0,75 2,5 mm ²) 2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²)
 finely stranded with core end processing at AWG cables for main contacts 	
connectable conductor cross-section for main	2x (20 16), 2x (18 14), 2x 12
contacts	
• solid	0.5 4 mm²
stranded	0.5 4 mm ²
 finely stranded with core end processing 	0.5 2.5 mm ²
connectable conductor cross-section for auxiliary	
contacts	
 solid or stranded 	0.5 4 mm²
 finely stranded with core end processing 	0.5 2.5 mm²
type of connectable conductor cross-sections	
for auxiliary contacts	

• at AWG cables	nded with core end proc for auxiliary contacts	essing		5 2.5 mm²)	2		
• at AWG cables AWG number as coo	for auxiliary contacts	essing					
AWG number as coo			$2\sqrt{20}$ 16) $2\sqrt{10}$ 1/1		2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²)		
		at AWG cables for auxiliary contacts AWG number as coded connectable conductor cross		2x (20 16), 2x (18 14), 2x 12			
	ueu connectable cond	uctor cross					
 for main contacts 			20 12				
 for auxiliary cor 	ntacts		20 12	12			
afety related data							
product function							
	acc. to IEC 60947-4-1		Yes; with 3RH29				
B10 value with high demand rate acc. to SN 31920			1 000 000				
proportion of dange							
	id rate acc. to SN 3192		40 %				
	nd rate acc. to SN 3192		73 %				
	low demand rate acc. to		100 FIT				
IEC 61508	est interval or service		20 у				
•	on the front acc. to IEC		IP20				
	the front acc. to IEC 6	60529	finger-safe, for vertical conta	act from the front			
suitability for use							
 safety-related s 	-		Yes				
ertificates/ approval	S						
General Product Ap	proval						
	<u>Confirmation</u>		(UL)	<u>KC</u>	EHC		
EMC	Functional Safety/Safety of Machinery	Declaration o	f Conformity	Test Certificates			
RCM	<u>Type Examination</u> <u>Certificate</u>	CE EG-Konf.	<u>UK Declaration of</u> <u>Conformity</u>	Type Test Certific- ates/Test Report	<u>Special Test Certific-</u> ate		
Marine / Shipping							
ABS			Lloyd's Register urs	PRS	RINA		
Marine / Shipping	other						
RARS RARS	<u>Confirmation</u>		<u>Confirmation</u>				
urther information							

Industry Mall (Online ordering system) https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2016-1AP01 Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2016-1AP01

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

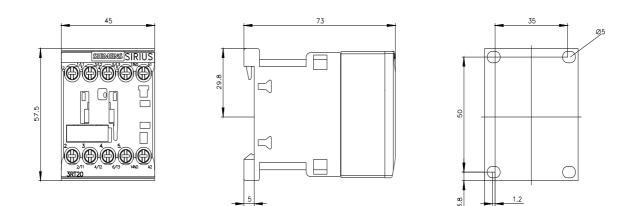
https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-1AP01

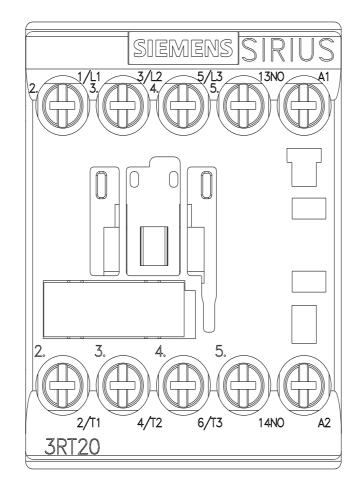
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2016-1AP01&lang=en

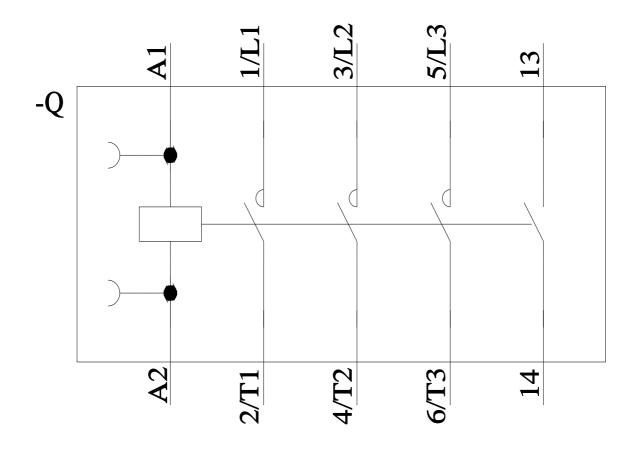
Characteristic: Tripping characteristics, I²t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-1AP01/char

Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2016-1AP01&objecttype=14&gridview=view1







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